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## EXTRACTS FROM CHURCHWARDENS' ACCOUNTS OF BEDFORDSHIRE.

BY J. STEELE-ELLIOTT.

BEFORE placing on record the following extracts from the Churchwarden Accounts for the county of Bedford, I should like to acknowledge my indebtedness to the clergy and others who have so willingly given me particulars of such extracts from their parish books—frequently a voluminous undertaking, covering several centuries of entries. In such parishes that are omitted altogether, either no records of such payments exist, or do not appear to have been made; or, as in a few instances, the parish has only been formed in recent years after such payments ceased in the county. I have endeavoured to obtain fac-simile entries, but possibly these have not always been given.

Many interesting points are derived from a consideration of the extracts as a whole. The entire absence of any mention of the birds of prey is noticeable; also the very few instances in which Rats are included. Stoats and Weasels appear much less frequently than the Polecat, but this is more easily accounted for by the greater destructiveness of the latter in the poultry-yards and rabbit-warrens; in fact, in most parishes the former were probably not considered worthy of "head money" being paid. Hedgehogs seem to have suffered invariably, most likely owing to their destructiveness to the eggs of poultry, and possibly also to the superstitious belief of their sucking dry the cows'

udders. Where payments were made for Bats, they would, I think, only relate to such when destroyed within the church-buildings. Of greatest interest are the few payments for Marten-Cats in the parish of Roxton, a species of which very few records indeed can be given of its former occurrence in this county.

It will be noticed with what frequency payments are made to women; undoubtedly many such—as widows, for instance—earned useful sums of money in the destruction of vermin; others no doubt would be merely the receivers of the money on behalf of their husbands.

The earliest records we have appear in 1665 under Northill, and the last—with the exception of Sparrows—at St. Pauls of Bedford in 1838. Sparrows are first recorded in 1714, at Houghton Regis, and the most recent at Sandy in 1860.

The following entries under their respective parishes are selected to show the various kinds of vermin destroyed, with prices paid for same, the variation of spelling, and other payments of peculiar interest:—

#### AMPTHILL.

		s.	d.
1719.			
June.	Pd. for Baggers & Hoghogs & Polcatts .....	15	0
1721.			
Apr.	Pd. for 5 hedghogs .....	1	8
	Pd. Mr. Wool's man for a pole catt .....	0	6
	Pd. for kiling 4 Dozn of Sparrows .....	0	8
	Pd. Richd. Uptin for killing Sparrows and a pole catt .....	1	0
Novem.	Pd. for killing of Varment .....	1	0
1729.			
Novem.	pd. for 2 poole Catts .....	0	8
1730.			
Aprill.	pd. for 2 poolcats .....		8
Decem.	pd. for 4 poll Cats .....	1	4
1731.			
June 22.	pd. for a Hedge Hog .....		4
1735.			
	Pd. Robt. Gray for 2 foxes .....	2	0
	Pd. Stephen Bolding for a fox .....	1	0
1741.			
June ye 28.	Payd Robert taylor for 4 heghogs .....	1	4
	Payd John Paynter of Milbrook a heggho.....	0	4
Nov. 25.	Payd tho <sup>m</sup> . Gandy for a hegghog .....	0	4
Nov. 25.	Pd. John Johnson for killing a Bager .....	0	6



1746.		s.	d.
Feb. 18.	Paid Henry Gray for pole cat.....	0	4
July ye 29.	pd. Francis Coalman for a heghhog .....	0	4
Sept. ye 21.	pd. Henry Gray for a polcat .....	0	4
Oct. ye 24.	pd. Richard Sandy for 2 polcates .....	0	8

1753.			
Oct. 16.	For killing a Stote.....		6

1766.			
	Paid for Hedgehogs.....	1	6

Entries commence in 1719, and continue until 1772, the total of slain being—Badgers 3, Foxes 3, Polecats 75, Hedgehogs 197, Stoats 1; Sparrows only being included in a few years. In some few items only the money paid is stated without number of the various vermin being given. The prices given continue the same throughout the entries, with exception of the two instances included above of Polecat 6d. and Hedgehogs 1s. 6d.

## ARLESEY.

1751.		£	s.	d.
Nov. 18.	Pd. for a pol-cat and hedge-hog .....	0	0	8
Nov. 28.	pd. Richd. Phillipps for 9 Moles .....		1	1½

1752.				
Feb. 19.	Hooper. Pole-cat .....			4
June 12.	paid W. Robinson for Killing a Fox .....	0	2	

1753.				
March 24.	pd. R. Phillips 6 Moules.....			9
August 21.	pd. Ruals for a Haghog .....			4
Sept. 22.	pd. Ruals boye for a Haghog .....			4
Dec. 19.	pd. R. Phillips for 3 Moulds .....			4½

1765.				
June 18.	paid for Sparrows and eggs .....			3
Aug. 8.	paid for 2 doz. Sparrow's eggs .....			2
16.	paid for 2 doz. Sparrows.....			3

The Churchwardens' Accounts are in three volumes—A, 1735 to 1758; B, 1758–1775; C, 1775–1793; the first entry for killing vermin being in 1751 (as already given), and the last in July, 1775, for the destruction of Polecats. The payments include Foxes, Polecats, Hedgehogs, Moles (about 450 were paid for from 1751–53), Sparrows, and their eggs. The prices paid show no variation.

## BARFORD PARVA.

	1780.	s.	d.
3 Hedgehogs .....		9	
2 Polecat.....		8	
3 Moles .....		6	
Sparrows .....		11	4
	1785.		
4 Clubsters* .....		1	0
	1788.		
1 Clobster* .....		3	

The earliest entries commence in the Churchwardens' Accounts book in 1779, and continue down to 1848. In the former year the amount paid for Sparrows was 8s. 4d., but in the accounts dating from 1804 the yearly charge becomes higher, in one instance as much as £2 18s. 8d. being paid.

## BARTON-LE-CLEY.

	1781.	£	s.	d.
Oct. 10th. Paid for Sparrows and polecats .....		17	9	
	1791.			
April 3. Paid Tho: Harris for Mole Catching .....		1	10	0
	1798.			
Dec. 25. For Sparrows and polecatts .....		17	6	
	1803.			
Paid for Sparrows and Polcats .....		18		
	1813.			
6 doz. Sparrows .....		2		
	1820.			
S. and p. ....		1	11	0
	1825.			
June 25. pd. for Sparrows and eggs at Sundry times ...		12	6	
	1826.			
April 19th. pd. for 7 dozen Sparrows .....		3	6	
	1828.			
Aug. 15. 6 doz. young S. ....		1	6	
	1832.			
March 28. For Polecat.....		6		
July 23. 3 young Polecats .....		6		

The accounts commence in 1781, and continue until 1837. No entries appear other than for Polecats, Sparrows and eggs, and the one entry for Mole-catching. In the majority of instances the payments are put into a lump sum, Polecats being

\* Evidently Stoats.



mentioned in twenty instances. Payments in all amount to £46 9s. 10d. Rates of payment seem to have been—for old Sparrows 4d. per dozen, and for young 3d. per dozen; but a few exceptions occur. No separate payment for eggs is given.

## BATTLEDEN.

	1782.	s.	d.
Paid Byway for mole catching .....	10	6	

This appears to be the only entry that occurs in the Vestry Minute Book, dating from 1764.

## BEDFORD (ST. PAULS).

	1808.	s.	d.
Dec. 27th. Pd. for 2 dozen sparrows .....		6	
Pd. for 2 Poll'd Cats .....	1		
	1809.		
May 6th. A Hedge Hog.....		4	
	1816.		
July 20. Pd. for 6 young Hedge Hogs, and 1 old one .....	1	4	
Aug. 5. Pd. for 3 Pold cats.....	1	6	
Sept. 26. Pd. for a Stort.....		6	
Nov. 12. Paid for a Pole cat .....		4	
	1819.		
March 11. Paid for a Polecat and Stoot .....	1		
	1821.		
Jan. 28. Paid for a Wisel .....		4	
	1822.		
Aug. 14th. Paid for a Stourt .....		4	
	1838.		
Sept. 29. Paid Fitzhugh for killing Bats .....		4	

Entries in the parish accounts date from 1808 to 1838; but I have before me only a complete copy until 1816. Herein are payments—for Polecats 11, Stoats 3, Hedgehogs 68, Sparrows 18½ dozen. There do not appear to be any entries between 30th September, 1811, and 19th July, 1813. The prices of Polecats and Stoats seem to have varied at 4d. or 6d. each, Hedgehogs 4d., except in the one entry as given, where young are included. The first payments for Sparrows are at 3d., but latterly only 2d. per dozen was given. After 1825 the modern spelling of Polecat is principally used.

## BIDDENHAM.

The Churchwardens' Accounts are very incomplete. There are numerous entries between 1836 and 1849, but only for the

destruction of Sparrows, and at the rate of 6d. per dozen, an unusually high price. No payments appear for eggs. In the former year £3 3s. 11½d. appears to have been paid.

## BILLINGTON.

	£	s.	d.
1697.			
Pd. to John Hargett for the powder in frightening the Crows, etc. ....	00	02	06
1699.			
Payed to Hargett a years wages for mole takeing .....	01	00	00
1700.			
Payed to Hargett a yeares wages for mole takeing at Myms* last.....	01	00	00
1701.			
Pd. to John Hargett his moletaking wages.....	01	00	00
1702.			
Pd. to him his years wages for moletaking .....	01	00	00
Agreed that the moletaking wages shall be pd. no more out of the Towns rents.			

Hargett's name reappears in 1704. I understand that the overseers of this parish used formerly to pay for the destruction of Sparrows and their eggs.

## BOLNHURST.

	£	s.	d.
1676.			
2 Polecatts killed in the P. ....	0	0	8
1679.			
pd. to John Rug 5 polcatts and a hodgh.....	0	1	10
1710.			
pd. to Mr. Petty for kiling of 2 foxes .....	0	2	0
1777.			
Dec. 26. pd. for 2 polcats .....			6
1794.			
Dec. 25. Pd. for Sparrows.....	4	0	
1799.			
Pd. at diffrant times for Sparrows .....	3	6	

Only a few payments for killing vermin appear, the first in 1676; additional single entries for a Fox and a Polecat are included. Sparrows first appear in 1794, and continue irregularly until 1805, and where stated they were paid for at the rate of 2d. per dozen. Small sums only appear to have been paid.

## BROMHAM.

	£	s.	d.
1680.			
For killing a hedhogg.....	00	00	04
1684.			
For a fox's head.....	00	01	00

\* Evidently Michaelmas.

The earliest entry in the Church Book appears in 1680. Killing of Hedgehogs—often spelt “hoghog,” and sometimes “hedghoogg” and “hedgehoges”—seems to be a regular yearly item thenceforward until 1692.

## CARDINGTON.

Payments for the destruction of Sparrows appear in 1836, when 7s. 6d. was paid; in 1837, £3 7s. 7d.; 1838, £2 0s. 2d.; 1841, £1; 1842, £2.

## COPLE.

Entries for Sparrows only appear, the earliest being 9th April, 1812.

## DEAN.

	1797.	s.	d.
For 2 doz. Bats .....		1	0
For a Fox .....		1	0
	1810.		
13 doz. Battes at 6d.....		6	6

The payments appear to commence in 1797, and the last entry of any vermin is in 1834. The payments for Bats are of particular interest, no less than 852 being killed, all at the rate of 6d. per dozen. There are also entries for 25 Foxes at 1s. each. The precise dates of payment do not appear to be given.

	1815.	s.	d.
May 29. Pd. Paine 4 dozn Spars .....		0	8
4 old ones .....		0	1
Aug. 9. John Gurney 2 Hogs.....			4
Oct. 30. Pd. Merrewether 4 Poll Cats .....		1	4

## 1816.

Jan. 8. Merryweather and others for fox caught in trap ...	3	
May 27. Housted 3 Egoges.....	0	6
June 16. Chambling boy 3 dozen spears $\frac{1}{2}$ .....	0	7
„ Jas. Waring one dozen of Speores .....	0	2
July 27. Houlet boy one snake 2 Hegogs.....	0	6
Nov. 6. Pd. Housted 5 Poll Cats .....	1	8

## 1817.

Mar. 8. Pd. C. Disher 2 Dozen old Spors.....	6	
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## 1821.

June 27. Paid Saml. Sage for fifteen dozen sparrows .....	3	9
Do. for a viper .....		2

## 1824.

Oct. 20. Pd. for a Notter .....	10	$\frac{1}{2}$
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(To be continued.)

## FIELD NOTES ON SOME OF THE SMALLER BRITISH MAMMALIA.

By GORDON DALGLIESH.

DURING recent years a great deal of interest has been taken in our native mammals, the result of this being that we now have some good and useful books on the subject, besides numerous papers thereon. That our knowledge is by no means complete has been shown lately by the discovery of two new Voles, viz. *Microtus orcadensis*\* and *Evotomys skomerensis*,† and two new Mice from St. Kilda.‡ For some two or three years I have been collecting small mammals, and have carefully kept notes on any information I have gained in doing so, and I venture to think that these may prove of interest to naturalists and readers of 'The Zoologist' in general. The means I employed for getting together a series of Mice, Voles, and Shrews being, of course, traps; these being the ordinary "break-neck" mouse-trap sold for a penny by all ironmongers. The only bait I have used for the above mammals has been cheese. By far the commonest mammals caught were Shrews, next to these being Wood-Mice and Bank-Voles, and the rarest—strange as it may seem—the Field-Vole. The traps were placed indiscriminately and anywhere where I considered there was sufficient cover to shelter "small deer." I found that on very windy or rainy weather I never caught anything at all.

NOCTULE BAT (*Pterygistes noctula*).—Although Gilbert White named this species "*altivolans*," it does at times fly very low—so low, indeed, that last summer I was able to knock several over by means of a stick whilst they were engaged in catching cockchafers. This Bat makes its appearance early in the

\* Millais, 'Zoologist,' 1904, p. 244.

† Barrett-Hamilton, 'Proceedings,' Royal Irish Academy, vol. xxiv. sect. B, art. 4, pp. 315-19 (1903).

‡ Barrett-Hamilton, Proc. Zool. Soc. 1899, p. 81.



evening ; I have seen several on the wing at 5.30 p.m., flying in bright sunshine, and it goes to roost comparatively early, as I have never seen it on the wing after 9.30 p.m. It disappeared altogether after the end of August. That it hibernates at this early date seems hardly possible, and I feel sure that it is to a certain extent migratory, visiting other places. In supposition of this I can only say that I had never seen this Bat in the village of Milford, Surrey, until the year 1902, when I obtained a few specimens in a hollow elm-tree formerly inhabited by a pair of Barn-Owls. I did not see one during the summer of 1904, whilst last year they were very common there. These Bats have a strong and disagreeable odour, which is perceptible some way off, and I have constantly "winded" them when passing along a country road in the daytime.

PIPISTRELLE (*Vesperugo pipistrellus*). — This little Bat I do not think hibernates at all in the true sense of the word, as I have notes on its appearance in every month of the year, and I have frequently observed it flying and catching gnats on a winter's afternoon. It is remarkable how very easily these little creatures are killed. One flew into my bedroom one evening, and, wishing to keep it alive, I caught it in a butterfly-net, and found, to my surprise and regret, on taking it out, that it was quite dead.

DAUBENTON'S BAT (*Myotis daubentoni*).—As before stated in 'The Zoologist,' a friend and I caught several of these Bats one year at Teddington by angling for them over a bridge by the river. The following year the same place was tried again, but without success (A. H. Bishop, *in lit.*); not a single specimen was seen or obtained. From this I conclude that this species is migratory, and changes its quarters. I found them very regular in their habits. They appeared flying over the water punctually at 8 p.m., and their numbers gradually increased until 9 p.m., when every one disappeared, and, although I waited quite two hours, they did not put in another appearance that night. Not only once, but several times this occurred. I never could discover the resting-places of this Bat—whether they resorted to buildings or trees, though I think most probably it was the latter. I did not observe them on the wing after September. Their flight was very pretty, and quite unlike that of any other

Bat I know, being Swallow-like, and occasionally hovering over and picking some insect off the surface of the water.

HEDGEHOG (*Erinaceus europæus*).—The following is a note I wrote, which appeared in the 'Field' for Nov. 19th, 1904:—"Most writers on British Mammalia agree as to the hybernation of the Hedgehog. Bell says: 'The hybernation of the Hedgehog is perhaps as complete as that of any animal inhabiting this country'; and adds: 'It retires to its warm soft nest of moss and leaves, and, rolling itself up into a ball, passes the dreary season in a state of dreamless slumber, . . . and only rendered the more profoundly torpid by the bitterest frost.' Lydekker, in his 'Handbook of the British Mammalia,' remarks: 'During the winter the Hedgehog passes its time in a state of complete torpor, apparently never awakening, and therefore requiring no store of food.' This in a certain sense is true, but that it does awake occasionally I know, for in the winter of 1900-01 I caught a Hedgehog running about on the snow late one afternoon, and a few days later saw another one. Two writers in 'The Zoologist' for 1896 (pp. 76 and 98) affirm this. Now, these three incidents all took place in bitterly cold weather, and are opposed to what Bell states. In the island of Guernsey, where the winters are not so severe, I frequently found Hedgehogs (where they are very common) in the cold months of the year. That our hibernating mammals do sometimes awake is well known, . . . but the Hedgehog being abroad on cold winter days is remarkable, and worth noting." Last year, whilst I was staying in Somersetshire, I found the back skin only of a number of Hedgehogs lying about a field, and a friend tells me he had observed the same thing in Shropshire. I think this must have been the work of Foxes.

MOLE (*Talpa europæa*).—On going through a large series of Moles, I have come to the conclusion that these animals have no regular time for shedding their fur; but certain individuals moult throughout the year, though the fur is poorest in some specimens collected in June. They do not appear to put on a thicker winter coat, and this may be due to their subterranean habits. Living as they do below the surface of the earth, they would not feel the cold like terrestrial mammals. I picked out specimens collected in January, and on comparing them with some collected in July,

I could not see there was any marked difference in the thickness of the fur. In many June specimens parts of the body, especially the back, appeared as if the tips of the hairs had been cut off with scissors. I regard this abrasion of the hairs due to the constant movements of the animals in their underground passages. Moles, as a rule, retire deep underground in hard weather, though I have a specimen taken alive in February, above ground, during a hard and prolonged frost at 10 a.m. Moles have a partiality for wet swampy soil. I have often found their runs in these situations, and in some places where the water fairly—if I may use the term—"squelched" over my boots.

COMMON SHREW (*Sorex araneus*).—I have nothing further to add to my note on this species published in a previous number of 'The Zoologist,' except that last year I caught a Shrew in the act of devouring what would have been a very fine specimen of a Bank-Vole caught in one of my traps.

PIGMY SHREW (*S. minutus*).—I have never trapped this species, but found two dead ones last year in the neighbourhood of Godalming.

WATER SHREW (*Neomys fodiens*).—With regard to the moulting of this species, I cannot say how often it takes place, as I have found the species scarce, and have been unable to obtain many specimens; but that it *does* moult at least once a year I know, as I have found them in this condition in April. I find it has a great partiality for ditches and slow running streams, and it also is less aquatic in its habits than is generally supposed. I once saw one running along a perfectly dry ditch covered with dead leaves a long way from any water, and have several times picked up dead ones on the high road. The finest specimen I have ever seen is one in my possession, which was caught at Esher, Surrey, in November, 1904. The fur is extremely long and thick, and as soft and glossy as that of a Mole, while the stiff hairs on the feet and tail are greatly developed.

WEASEL (*Putorius vulgaris*).—I have on more than one occasion watched Weasels at play. Their actions then are extremely pretty and graceful, reminding one of kittens. They will when thus engaged bound up a couple of feet or so into the air in sheer exuberance of spirit.

DORMOUSE (*Muscardinus avellanarius*).—I once found a colony

of Dormice in a wood a few miles away from the Crystal Palace, and could have taken scores of them. Their nests were built on low bushes. One I caught was asleep in a Thrush's nest, where it had sucked the eggs, three in number. Round Godalming, in Surrey, the Dormouse is yearly becoming rarer, no doubt in consequence of the toll levied on them to supply London dealers, and I heard of one man in that neighbourhood who made a living out of catching Dormice and Squirrels.

WOOD-MOUSE (*Mus sylvaticus*).—I have taken every intermediate variety of this Mouse, from the typical *sylvaticus* to the so-called "Yellow-necked Mouse," *Mus flavicollis*. Some specimens showed no trace whatever of the yellow pectoral band, and others were nearly *flavicollis*, but not quite, having the band slightly broken in the middle. I took one specimen of *flavicollis* on Richmond Hill, and another at Milford, Surrey. I have trapped these Mice in a variety of situations in hedges, under bushes, in outhouses, round corn-ricks, and on the banks of streams, and in my opinion they are every bit as common as the House-Mouse. I found one asleep in a nest during November. The nest was a round structure, made of grass, and placed in a hazel-bush, but whether this was built by the animal itself, or was the deserted nest of a Dormouse, I am unable to say.

BANK-VOLE (*Evotomys glareolus*).—This Vole I have found to be quite common, at least in the south. I have trapped them among ivy-roots, and also in damp marshy woods, and in this last situation I found a nest composed of leaves, and placed in a thick tuft of grass at the foot of an alder-bush, containing five naked young. This was in May. I have found them breeding throughout the summer months, and killed a pregnant female in September, and one was caught on Nov. 5th that would have shortly given birth to five young (A. H. Bishop, *in lit.*).

FIELD-VOLE (*Microtus agrestis*).—I would like to draw attention to the great variability in size of the Field-Vole. According to my own experience those in the South of England are, on the whole, smaller than those of the midland and northern counties. Specimens I have examined, collected in Surrey, Hampshire, and Middlesex, were quite typical; whilst some collected in Warwickshire and Yorkshire were very large indeed, quite above the average. Whilst I was in Guernsey I was shown some Field-



Voles that were very nearly as large as half-grown Rats. I very much regret now I did not obtain some of these, as they might have proved to be an undescribed species or form. It is worth noting that—in the case of Voles, at least—those found on islands are larger than those of the mainland. Thus we have the Orkney Vole considerably larger than its near ally, the Field-Vole; and the Skomer Island Vole, which may be compared to a large Bank-Vole; and, lastly, the Guernsey Voles I have alluded to above. Mr. Drane, of Cardiff, was the discoverer of the Skomer Vole, and in a letter he wrote to me he says:—"The island is off Pembrokeshire, of some six hundred acres. There is not a tree on the island, the largest shrub is the common furze, . . . . and it was there I first recorded the Vole as *Microtus skomerensis* in 1896." There is no doubt that the Voles of the British Isles until lately had been very imperfectly worked out, and even now I feel sure that close attention and careful collecting would reveal many more interesting points.

WATER-VOLE (*M. amphibius*).—In a former volume of 'The Zoologist' (1902, p. 66), I drew attention to the carnivorous tastes of the Water-Vole, which was confirmed by Mr. Patterson (p. 111). Another case came under my notice a year ago, when I saw one in the act of devouring some Moorhen's eggs. I have shot several of these Voles, which appeared to be suffering from a disease in the form of a hard scaly scab on the sides of the body. The animals appeared to be otherwise healthy; but this I have noticed many times, and the fact may be worth noting.

## NOTES ON MARINE CRUSTACEA IN CONFINEMENT.

BY ALBERT H. WATERS, B.A.

(Concluded from p. 57.)

ALTHOUGH individual specimens were got from elsewhere, every one of the species kept by me in aquaria have been obtained from the eastern shore of the Wash—that is, from Hunstanton; so that I may be said to be practically writing a list of the Crustacea of that place, the fauna of which I have been observing for forty years. Thirteen years ago I entered into negotiations with the object of starting an aquarium close to the beach, and hoped to make of it a marine laboratory of scientific benefit. But the necessary outlay proved to be beyond my slender means, and the design was abandoned—for a time, as I hoped; but unfortunately I have met with reverse after reverse, and each has left me poorer than before, so that my project has never been accomplished yet, and I have had to content myself with such observations as I could make when visiting the spot every summer, not earlier than the end of March, or later than October. Yet, even with this more or less casual observation, I have in my note-books a fairly complete list of the fauna of the Wash, especially as it was before the place was so flooded with visitors as it is now in the summer season.

The bygone fauna of Hunstanton, in the days when it was a coral-reef, I have described in the defunct 'Naturalists' World' for 1884. I have collected and studied the fossils of the red-and-white chalk from the day I first went there as a boy, making casts or rubbings of such as I was unable to get out of the hard chalk.

The fauna of to-day is very different from those old Cretaceous times. The Brachiopods are no longer the prevailing Mollusca; Belemnites no longer dart about in the clear water; and although the bivalves are still well represented, it is by quite different species.

I have tried hard to find out what Crustacea lived in those days, but the investigation has not been an easy one for me. It is one I am still persevering with, however, and I may by careful and painstaking work meet with some success yet. I should have a better chance of success if I resided on the spot, and could give more time to investigating the fallen masses of red-and-white chalk.

But I shall be writing a palæontological article if I do not check my pen. To return to the Decapoda I was about to write on in my former article.

*Pandalus annulicornis* is a pretty creature to have in an aquarium; it looks as if made of tinted glass, with the joints a deeper pink. But I have found it rather tender in my shallow vases. It does not seem happy unless the water is deep, and I have never succeeded in getting it to breed as I have the hardier Prawns. It needs a vase all to itself, as it fights fiercely with its fellows, and a tank full of them will dwindle in numbers as did the "ten little niggers," until, when there are only two survivors, they get fighting, and then there is one. This one may live for months, untroubled apparently in conscience, but a very cold night may prove fatal to it, as it often has to mine.

*Palæmon serratus* I have only occasionally captured, and always of small size. It, however, makes one of the best aquarium pets I have had, and will live for two or three years—growing, indeed, until it gets too large for my vases. I had one which lived for a long time in company with an *Actinia mesembryanthemum* I brought from Brighton in 1876, and which is still living. The Anemone seems to have killed it in the end, but while it lived it was useful to pick up rejected pieces of food such as the Sea-anemone often seizes with her tentacles and then drops. I speak of it in the feminine gender because it has been the mother of several young ones.

*Palæmon squilla* I have also found an interesting pet. It soon becomes tame, and will take scraped meat off my finger. I have kept it until it has grown to full maturity, and become a parent. The larvæ, when first hatched from the eggs carried about by their mother, fall to the bottom of the aquarium; then they suddenly give a flap with their tails, and dart upwards through the water, afterwards slowly sinking, and anon repeating the

evolution. They are comical creatures at first, these zoea, but each moult makes them more and more like the adult Prawn. Only a small percentage survive to maturity out of the number of ova there are at first.

*Palæmon varians* is the easiest of all the Prawns to keep in captivity. It does not trouble much about the density of the water, and if the aquarium be properly made up can take care of itself during its owner's absence from home. I have left these Prawns for a month or more, and found them all right on my return home. I am not sure they do not sometimes eat seaweed; they certainly love to pick the laver about with their pincers. They are the only Prawns I suspect of occasional vegetarianism. I have seen them holding a piece of the green lettuce laver in their pincers, just as if about to put it into their mouths. As they seem none the worse for being left for weeks, they must either eat seaweed or have the power of enduring long fasts.

It is curious how Prawns lose their transparency when they are unwell or dying, and how opaque these crystal creatures are when dead. I can always see if they are ailing or distressed at all by noticing whether they are quite clearly transparent or otherwise, and generally in time to save their lives. I mostly lose them either by a sudden frost or by their fighting with one another. Some of the large Prawns are very fierce and pugnacious, especially the females when they are carrying ova. One of these contrived to kill a Hermit-Crab in the same aquarium, and another one, in with a Goby, killed the fish. I like to keep them with the fish, as they pick up all tiny morsels of meat these and the Hermit-Crabs reject. With scraped meat there is sure to be some not eaten, and if left it will foul the water; Hermit-Crabs are especially wasteful of meat given them.

The regulation food for my Prawns is scraped beef. This they take off a pointed wooden skewer, and evidently know where their food comes from, as they are eagerly alert at sight of the skewer. At other times they endeavour to arrest my attention by coming to the front of the aquarium and palpably begging for food.

*Crangon vulgaris*.—I have had such success with the Common



Shrimp—keeping them through their entire lives—that I have laughingly suggested it might be possible to breed them in inland ponds of sea-water. They grow very fast, and in three years seem quite old. They are quite tame with me, and feed from the wooden skewer just as the Prawns do. As soon as one has taken a morsel of scraped meat he scoops the sand away, and sinks down into the hollow before eating it. They spend most of the daytime buried up in the sand, which they excavate into a hollow with their feet and tail, and then sweep other grains over their backs by means of their antennæ so as to effectually hide themselves all but their eyes. At night they come out and roam about the aquarium. This is the best time to see them walking. Strange to say, they do not seem to mind artificial light, but walk about just the same when the aquarium is lighted up. They are peaceable things, and a number can be kept together without harming each other.

Shrimps do best with me in broad, shallow earthenware pans half filled with fine, soft sea-sand, and covered with an inch of water. They need plenty of air, and if opportunity be given them will crawl almost out of the water. They appreciate the sand being disposed like a sloping bank just covered at one part. In deeper aquaria—as in vases—I have had them crawl out on to the top of the rockwork. One old one I had a long time was very fond of perching on the top of a stone, with its back quite out of the water.

*Mysis chamæleon*.—Although I have kept for a short time numbers of the Opossum Shrimps, they need such frequent changes of water that they do not thrive in an inland aquarium. I have never succeeded in so taming them that they will eat scraped meat, and they seem to need something which is only found in the sea. I do not despair of succeeding with them yet, as I have succeeded in feeding Barnacles, and these capture minute particles of food, much as, I think, the *Mysidæ* do.

I fear I shall make this article too lengthy if I enumerate all the species I have kept. I have had four species of Shrimps, but the habits of the others do not vary much from those of *Crangon vulgaris*. Some other Crustacea I must also omit, and, merely mentioning the names of *Cymodocea truncata*—with ways

as amusing as an Armadillo—a species or two of *Arcturus*, and allied kinds, conclude with mention of—

*Gammarus locusta*. — This crustacean has lived generation after generation in my aquaria. An interesting trait in its nature is the care the parents take of their young. Male and female associate together, and pair off all their lives. The female is especially fond of her husband, and carries him about wherever she goes, until her eggs are hatched, when they both look after the young. The newly hatched ones do not essentially differ from the adult form, as do other Crustacea, unless they develop ere they leave the abdomen of the female. Like Shrimps they grow rapidly. Mine are tamable creatures, and come to a pointed stick or small quill as readily as the Prawns do.

Cambridge.

## THE BIRDS OF THE DISTRICT OF STAINES.

BY GRAHAM W. KERR.

THIS list is made up from my note-books which I have kept for the last twelve years.

First, let me give some idea of the country included in these notes. On the Thames, Old Windsor Lock to the village of Laleham is the limit; across the river I have ranged to Thorpe, and all around Virginia Water; on the Middlesex side I have worked as far afield as Stanwell, taking in the new Staines reservoirs. The building of these reservoirs has had great effect on our bird-life, attracting many species formerly quite unknown to these parts.

Unfortunately the reservoirs are a very difficult place to successfully observe birds; there is an entire lack of any cover, the expanse of water is very great, and, owing to the height, the least breeze lashes it into an open sea. So that, even with good glasses, it is most difficult to approach near enough to satisfactorily identify the ever-increasing number of Waders, Duck, Geese, &c., that occur on spring and autumn migrations, or that remain to winter on the waters. The Duck and Gulls always keep well out towards the centre, and the Waders that run along the concrete slopes take alarm long before one can get anywhere near them.

MISTLE-THRUSH (*Turdus viscivorus*).—Of late years has increased considerably; in the autumn many birds of a very light plumage make their appearance, and, I think, must be migrants.

SONG-THRUSH (*T. musicus*).—Common.

REDWING (*T. iliacus*).—A good number pass the winter.

FIELDFARE (*T. pilaris*).—Common during the winter, but of late years there have not been so many, probably owing to the weather having been more or less open.

BLACKBIRD (*T. merula*).—Common.

WHEATEAR (*Saxicola oenanthe*). — In April, 1895, numbers occurred for the first time in the district, and were seen for one day only. In spite of a keen look-out every spring it was not until the autumn of 1904 that the bird was rediscovered. About a score of birds were then found frequenting a rabbit-haunted plateau in Windsor Park, and I thought had probably bred there. In spring (1905) half a dozen birds returned to the same spot, but, although one or two remained throughout the summer, I could find no trace of their nesting. With the exception of one or two recent individual appearances of the bird around the reservoirs on migration, this is the only spot where they are likely to be found. The country around Staines is not suited to their needs.

WHINCHAT (*Pratincola rubetra*). — A summer migrant, breeding round the sides of the reservoirs, but seeming to avoid the parts occupied by the Stonechat.

STONECHAT (*P. rubicola*). — A resident that has considerably increased in numbers. Frequents the sides of the reservoirs, nesting in the grassy slopes, often quite close to the road. The bird is remarkably tame, and pays no heed to the traffic, though very wary in approaching the nest. Two broods are reared, the first nest being commenced early in March.

REDSTART (*Ruticilla phoenicurus*). — Never very plentiful around Staines, and is becoming rarer. In Windsor Forest, however, it breeds regularly, and this spring I saw one there as early as the 19th March—an exceptionally early date.

REDBREAST (*Erithacus rubecula*). — Common resident, subject to considerable local movements.

NIGHTINGALE (*Daulias luscinia*). — Not so many as formerly, but still occurs in large numbers. The bird returns year after year to the same spot, and, if it has not been disturbed, rears its young within a few yards of the previous season's home. The song is often not commenced until some days after arrival. Sings quite as much during the day as at night, and it has struck me that the Nightingale must need much less sleep than many other birds. When the young birds are in danger the male utters a hoarse croak somewhat similar to the Red-backed Shrike's.

WHITETHROAT (*Sylvia cinerea*). — Common during summer; sometimes the foster-parent of young Cuckoos.



LESSER WHITETHROAT (*S. curruca*). — Not so conspicuous as its relative, but its skulking habits are apt to cause it to be overlooked until it brings its young into the gardens at the beginning of the fruit season.

BLACKCAP (*S. atricapilla*). — Sparsely distributed. The little red-capped hen is a most devoted mother. Once when I disturbed one from her nest, she flew at and brushed my face with her wing. On another occasion the bird only just left the nest, and remained on a branch within a few feet, quivering all over with anxiety, absolutely fearless for herself.

GARDEN-WARBLER (*S. hortensis*). — In early spring great numbers occur, and for some days the country-side is full of their song; but they gradually move away again, and comparatively few remain to nest. I have several times found the Garden-Warbler and Blackcap nesting close together.

GOLDEN-CRESTED WREN (*Regulus cristatus*). — More often seen in winter and early spring; sometimes joins the family parties of Long-tailed Tits. Not known to breed.

FIRE-CRESTED WREN (*R. ignicapillus*). — Of rare occurrence only.

WILLOW-WREN (*Phylloscopus trochilus*). — The song is heard from every copse in spring, and again in autumn there is a great revival of its notes. I have heard it singing cheerily until well on towards the middle of October.

REED-WARBLER (*Acrocephalus streperus*). — There are large numbers along the river-banks, but they are curiously local, and seem to breed in small colonies, for where one nest is found there are sure to be several more in the immediate vicinity. From early in June the Cuckoo shows great partiality for this bird's nest, and it must be quite convenient for her to deposit her eggs all around the same spot. That the convenience is appreciated is shown by my having frequently found several Reed-Warblers' nests, each containing a Cuckoo's egg, within a distance of a few hundred yards.

SEDGE-WARBLER (*A. phragmitis*). — More evenly distributed than the Reed-Warbler, and during May this is the favourite nest of the Cuckoo. The Sedge-Warbler is an untiring songster, and its babbling notes continue far into the night. Two broods are reared, but I have never found a Cuckoo's egg in the second

nest; by that time the Reed-Warbler has become the first favourite.

GRASSHOPPER-WARBLER (*Locustella naevia*).—There are a good many along the river, but they are more often heard than seen. The note, to my ear, very closely resembles the winding in of a fisherman's reel, and is often hard to locate precisely.

HEDGE-SPARROW (*Accentor modularis*).—Resident.

DIPPER (*Cinclus aquaticus*).—Yarrell observes:—"The nearest spot (to London) in which I heard of a Dipper being seen was a watermill-tail at Wryrardisbury, on the Colne, about two or three hundred yards above the place at which it falls into the Thames, just below Bell Weir." I know the spot well. The water is really private, and runs rapidly over large boulders. It is, indeed, a likely place, but I have never been fortunate enough to be able to record a second example.

LONG-TAILED TIT (*Acredula caudata*).—Has considerably increased, but is by no means numerous.

GREAT TIT (*Parus major*).—In winter this bird comes close to houses, and at feeding-time other members of the family must wait until he is satisfied; but with the return of spring he retires to the woods, and is seen very little of until the following autumn.

COAL-TIT (*P. ater*).—Not a very great many.

MARSH-TIT (*P. palustris*).—Uncommon, but one or two broods are hatched each year. Fond of fruit, the red berries of the mountain-ash, and sunflower seeds.

BLUE TIT (*P. cæruleus*).—Numerous. In the autumn these birds split open the dry heads of the garden poppy, and in an amazingly short time clear out all the seeds, the opium apparently having not the slightest effect on them. They are also very partial to sunflower seeds.

NUTHATCH (*Sitta cæsia*).—Quite common in the woods.

WREN (*Troglodytes parvulus*).—Very plentiful.

PIED WAGTAIL (*Motacilla lugubris*).—A resident, though the number is increased during summer. Three broods are reared.

WHITE WAGTAIL (*M. alba*).—Only an occasional migrant.

GREY WAGTAIL (*M. melanope*).—A regular autumn migrant. In some years old birds with their young families arrive towards the end of September, and remain by the river for some days.

As a rule, however, the first birds appear about the middle of October, and one or two always remain for the winter.

BLUE-HEADED WAGTAIL (*M. flava*).—In June, 1903, a single bird frequented a flooded meadow for some days.

YELLOW WAGTAIL (*M. raii*).—Fair numbers are well distributed along the banks of the river throughout the summer. On the autumn migration great numbers of family parties arrive, and remain for some days, feeding and playing about together. During this time each family appears to keep to itself, and I have not been able to discover if the final migratory movement is undertaken in these separate parties, or if at the very end of their stay they unite and depart in one flock. Certainly, on migration, I have seen *M. lugubris* in flocks. One such movement towards evening brought many hundreds of the birds into the district, and when night fell every bush was full of them. The female sits very closely, and the male usually has a resting-place some twenty yards away. He spends nearly the entire day perched at this same spot, and if he flies away returns again in a very few minutes; he rarely approaches nearer the nest, and when doing so displays great caution. When the female comes off to feed he accompanies her. I wonder if others have noticed the increased playfulness and good spirits of birds about to set out on the autumn migration. Yellow Wagtails dart at each other, and follow each other on short flights, calling the while, just as if the courtship of spring were renewed. Whinchats, Pipits, and Larks also do this.

TREE-PIPIT (*Anthus trivialis*).—Unusually scarce. I have only met with one nest in twelve years.

MEADOW-PIPIT (*A. pratensis*).—During winter large numbers are seen, but with the return of spring they vanish, and I have never seen one during the summer.

TREE-CREEPER (*Certhia familiaris*).—Fairly common.

RED-BACKED SHRIKE (*Lanius collurio*).—This handsome bird is well distributed, and is fond of perching on telegraph-wires. The hen sits closely, but the male is apt to betray the nest by his too evident anxiety and harsh croak of anger when an intruder is nigh. I have found nests containing seven eggs, which is rather unusual. The bird frequently eats

worms, as I have found from examining many of the so-called "ladders."

SPOTTED FLYCATCHER (*Muscicapa grisola*).—Common all along the river during summer, nesting in niches in old willow-trees. The nest is commenced almost immediately upon the bird's arrival. After rain-showers the Spotted Flycatcher often comes down on to the ground and walks about.

SWALLOW (*Hirundo rustica*).—Common.

MARTIN (*Chelidon urbica*).—Common.

SAND-MARTIN (*Cotile riparia*). — There is no nesting colony within several miles of our part of the river, yet the birds fly to the stream every day, and are always in greater numbers in gusty and windy weather. Then they fly low down over the water just clear of the waves. In the upper reaches of the Thames the bird commonly nests in the banks of the river itself.

GREENFINCH (*Ligurinus chloris*).—Common. Another of the birds that are partial to sunflower seeds.

HAWFINCH (*Coccothraustes vulgaris*). — Still rare, but undoubtedly slightly on the increase. In Windsor Forest it breeds annually.

GOLDFINCH (*Carduelis elegans*).—Exceedingly scarce. I have had reports of the bird at Staines, but the only times I have personally seen it were on two occasions in Windsor Forest last spring (1905).

(To be continued.)



## NOTES AND QUERIES.

## MAMMALIA.

**Bats in Berkshire.**—The artificial cave at Park Place, in Remenham parish, on the Berkshire side of the Thames, about a mile and a half from Henley, became known to zoologists through a note by Mr. J. G. Millais in P.Z.S. 1901, ii. p. 216, announcing the capture there by Mr. Heatley Noble and himself of an example of Bechstein's Bat, which was said to be only the second occurrence of that species in Great Britain. Apparently, however, this was in reality the fourth occasion on which the species has been identified in this country. The first record is that by Bell (both editions), of "specimens taken by Mr. Millard in the New Forest, and now in the British Museum." From the date of publication of the first edition, this took place previous to 1837. The second record is by Mr. E. W. H. Blagg, in 'The Zoologist,' 1888, p. 260, who found about a dozen of these Bats in the New Forest, in July, 1886, one of which was submitted to, and identified by, Mr. Oldfield Thomas.\* In 'The Zoologist,' 1887, p. 162, and 1888, p. 260, two Bats in the collection of the late Mr. F. Bond, from Preston, near Brighton, are stated to be of this species; but Mr. W. C. J. R. Butterfield, in the 'Victoria History of Sussex,' i. p. 301, states that they are "undoubtedly assignable to *M. nattereri*." But on July 28th, 1896, he shot "an old male" Bechstein "near Normanhurst, Bath," "and its identification was confirmed by the late Sir William H. Flower. The specimen is now in the Hastings Museum." On Feb. 14th last, I met Dr. E. A. Wilson, late surgeon, zoologist, and artist of the 'Discovery' Antarctic Expedition, at Henley Station, and drove him on to Temple Combe, whence Mr. Heatley Noble guided us to the cave on the adjoining property of his mother, Mrs. Noble, at Park Place. On the way Mr. Noble pointed out a hollow beech frequented by Noctules; also a nest-box quite close to his house, generally tenanted by Dormice. Subsequently, on March 26th, Mr. Noble found five Noctules in a beech which was felled. The cave was excavated in the chalk on the high bluff forming the edge of the river valley some time between 1751 and 1795 by General Conway, who then owned the

\* See also the 'Victoria History' for Hants, i. p. 240; and for Bucks, i. p. 155.

property. It is about a quarter of a mile in length, averaging perhaps eight feet in width, and the same in height. There are in addition two or three subsidiary caves. We examined one side of the cave on our outward way, taking the opposite side on the return, and throwing the light of the tapers, a supply of which Mr. Noble kindly brought with him, on to every little irregularity in the chalk on wall and roof, and into numberless chinks and crannies. We captured more than thirty Bats, the majority of which were Natterer's; seven Whiskered, about as many Long-eared, and three Daubenton's. I regret that we kept no exact count of the numbers, as we replaced on the roost all the Long-eared, and a good many Natterer's, when we had become sufficiently familiar with the species to be sure of their identification by the imperfect light of our flickering tapers. We brought out just twenty Bats. Dr. Wilson reminds me that the Whiskered were all at either end of the cave, north and south, near the entrances, and none in the centre. The Long-eared were all near the north entrance. We found throughout the cave an abundance of sleepy Herald Moths and spiders; and one large broad-winged Geometer moth was found by Dr. Wilson. A month later (March 14th or 15th) the Hon. N. Charles Rothschild sent one of the Tring Museum staff to Park Place, by permission of Mr. H. Noble, in quest of Bat fleas; Mr. Noble could not go with him, but sent his gardener as guide. Only four Bats were found, of as many species—Long-eared, Natterer's, Whiskered; the fourth was a Lesser Horseshoe, a species which, even if not new to the county,\* is, at any rate—so far as present knowledge goes—not a resident therein. In an excellent article on the distribution in Great Britain of this species (Zool. 1887, p. 89), the Rev. J. E. Kelsall concludes that it does not occur as a resident species to the south-east of Warwickshire and Gloucestershire. The latter county just touches Berks for a length of some half-dozen miles (near Lechlade), but that nearest point is fully forty miles in a straight line from Park Place. Mr. Noble has since written me word that his lodge-keeper reports numerous Bats in his roof; one evening he counted over sixty come out. Mr. Noble kindly suggests that I should come over there for a night, and that we should endeavour to rig up some kind of net, and catch at least a few for identification; an offer, I need hardly say, I hope to avail myself of. Mr. Noble has noticed that the Bats desert the cave during the summer, only a stray individual or two being

\* I have not seen the account of the Mammals of Berks in the shortly-expected first volume of the 'Victoria History' of the county, and do not know who the author of it is.

then to be found. On March 25th a Daubenton was the sole occupant.—ALFRED HENEAGE COCKS (Poynetts, Skirmett, near Henley-on-Thames).

**Pigmy Shrew (*Sorex minutus*) in Surrey.**—On April 29th I trapped a Pigmy Shrew. It was caught in a field, where it had made extensive runs, just outside its burrow. What struck me at once was the great length and breadth of the snout, which was, comparatively speaking, greater than that of the Common Shrew; its ears also were more pronounced than those of that species. It had a very rank and offensive odour, resembling that of a Stoat. The animal (a male) gave the following measurements in millimetres: Head and body, 55; tail, 38; hind foot, 10; ear, 7. This is the third Pigmy Shrew that has come into my possession from this county during the past four years, and the first I have trapped, the other two being picked up dead. On comparing the Pigmy Shrew with the Common one, besides its much smaller size the differences I have pointed out above are most remarkable, and the two species cannot possibly be confounded with each other. — GORDON DALGLIESH (Brook, Witley, Surrey).

**Stoats in Winter Dress in South-western Hants.**—During the past winter, was it observed that the change in colour of this evil-smelling little beast was more frequent than usual? In this neighbourhood I knew of quite a score being killed—six in one week in early January—and several others seen; two at least were killed on the railway, and one was found in a brook apparently drowned. The first I saw was in September, and to-day (April 10th) I saw one with much white about it. The permanently black tip to the tail, I need not say, was retained by all, and I saw none that were perfectly white, the dark summer coat being more or less visible along the back, and especially about the crown of the head, as if the white gradually crept up the sides, absorbing the darker colour, lastly reaching the head. One was curiously marked, having a large patch of brown on both hips, and a collar-like mark of the same colour about its neck, whilst the head and face were very dappled, which gave it a peculiar appearance. I may remark that all I saw were of comparatively small size, and, with one exception, females. It seems strange that under (as we suppose) exactly the same conditions some individuals should change colour, whilst the greater proportion do not alter from their summer pelage—and it has been observed many times in these pages—that the lighter ones are more frequently seen in a mild winter than when the weather is severe; and at the same time it has been pointed out that a protective colour amidst the snow becomes conspicuous when the landscape is snowless,

and thus in a mild season more parti-coloured Stoats are observed.—  
G. B. CORBIN (Ringwood).

Harvest-Mouse (*Mus minutus*) in Surrey.—For several years I had been on the look-out for this pretty little Mouse, but without success, and doubted its occurrence in this county. Yesterday (April 9th), however, I had a pair brought to me that had been caught in a corn-rick. I have not seen this species recorded from Surrey before, and think it must be very rare here.—GORDON DALGLIESH (Eashing, Godalming, Surrey).

Hippopotami in Rhodesia. — It is reported from Rhodesia that two Hippopotami have taken up their abode in the Matopo Dam, a few miles from Bulawayo. How they got there is somewhat of a mystery, for the lower regions of the Umzingwani River, from which it appears they must have come, are over one hundred miles from the dam. This is the first year in which the dam has been quite full of water, and if, as is supposed, the animals began to move early in the season, when the rains were backward and the river was in consequence low, the instinct displayed by them is perhaps worth investigating by those interested in such matters. The Hippopotamus is seldom found in Rhodesia, except in the larger rivers, such as the Zambesi, where in the lagoons above the Victoria Falls one may often see several at a time.—  
THE SECRETARY (The British South Africa Company).

#### AVES.

Fire-crest in Sussex. — Seeing in last month's 'Zoologist' (*ante*, p. 149) that the Fire-crest (*Regulus ignicapillus*) has occurred in Dorset and Kent, it is worthy of note that it has likewise occurred in Sussex. I met with one of these little birds at Maresfield on Feb. 14th, the first under my notice, though often looked for.—ROBERT MORRIS ("Fernhurst," Uckfield).

Late Stay of Bramblings (*Fringilla montifringilla*) in Cheshire.—Between the 11th and 18th April last I watched a small party of Bramblings of both sexes in a plantation of young larches at Blacon, near Chester. They were feeding on the so-called larch-aphis (*Chermes laricis*). Mr. R. Newstead kindly identified the insect, and informed me that, to the best of his knowledge, he had no previous record of this particular insect-pest being taken by birds. Although the plantation adjoined a high road, the birds evinced little alarm at passers-by, so intent were they in picking off these insects. They occasionally gave utterance to a guttural note, "tuk, tuk," or "tchuk, tchuk,"



somewhat similar to that of the Corn-Bunting; only once did I hear the winter call oftenest heard, the long-drawn "qua-a-a-tch." I should like to know if this species has been noticed in April in other localities this year, for it seems to be an established fact that the bird leaves this country not later than the end of March, as a rule.—S. G. CUMMINGS (Chester).

**The Breeding Range of the Twite.**—Referring to Mr. Ellison's remarks (*ante*, p. 150) regarding the breeding range of the Twite, the statement that it "breeds in most parts of the British Islands where moors, mountains, and exposed heathy places are found," to my mind, hardly sufficiently represents the status of this species during the breeding season. It is more local in its distribution than seems to be implied in the above description of its range, and is apparently absent from vast tracts of moorland; especially is this the case in Wales and the north-east part of Yorkshire. I quite agree with Mr. Ellison that future researches and closer scrutiny may reveal this bird as occasionally nesting even in parts of the country where it has been declared not to breed; but, on the other hand, a closer investigation may prove that it is absent from districts which have been considered hitherto as suitable breeding haunts. *En passant*, may I ask is Mr. Ellison quite sure that this species feeds its young so exclusively on seeds, as stated in 'The Zoologist' for 1905, p. 391?—E. P. BUTTERFIELD (Bank House, Wilsden).

**Crossbill in Captivity.**—In November last I obtained, by the kindness of a friend, a fine male Crossbill in the yellow-green dress, which had been in captivity more than a year, and probably longer, as he was in the same plumage when purchased from a dealer. "Gyp," as we call him, from his sharp note, soon became quite tame, and would freely take larch-cones from my hand. It is very interesting to watch him at work with the cone firmly gripped to the perch with one foot, the scales being forced open by the powerful beak, and the seeds extracted with the tongue. This process has been admirably described by Prof. Newton in Yarrell's 'Birds' (4th ed., vol. ii. pp. 205, 206). About this time of the year the cones become practically useless for food, as they expand and shoot their seeds, and, from the specimens of "Gyp's" work enclosed, it would seem that the young buds of the Scotch-fir form part of the Crossbill's food in spring and summer, as a small branch inserted in the wires of his cage is always bitten to pieces, and stripped of every bud by the next day. His movements, as he climbs about the cage or hangs back downwards from his

fir-branch, are very pretty, and it is curious to see how he can extract the kernel of a hemp-seed without crushing the husk. His perches are changed occasionally for a fresh branch of pine or larch, and, though he bites the bark from these, he does not attempt to injure the wood or wirework of his cage. Early in the year he began to warble a pleasant but not powerful song, rather like that of a Bullfinch. Having had in the winter an offer of Crossbills of both sexes, I was rather inclined to get a hen-bird as a mate for him, but we rather feared that after so many months of bachelor life he might maltreat her; so he is still in sole possession of his cage. Mr. Patterson, in his 'Nature in Eastern Norfolk' (p. 139), mentions a Crossbill which lived in a cage for more than six years, so we hope that "Gyp" may, with care, be retained as a member of the household for some time to come. — JULIAN G. TUCK (Tostock Rectory, Bury St. Edmunds).

Varieties of Yellow Bunting and Chaffinch.—Early in January I saw a variety of the Yellow Bunting in which the whole plumage was very much lighter than usual, except two or three of the middle tail-feathers, which appeared in consequence to be very dark. The usual yellow markings were more or less white, the larger quill-feathers of the wings being much bleached, the "secondaries" alternately white and dusky, which must have made it very conspicuous when the bird was flying. The other variety of which I made a note was that of a cock Chaffinch, shot in December last, and very much mutilated. The head and neck were pale primrose colour, shading to deeper yellow about ear-coverts and lower neck; but the brightness of the tints faded considerably in a few days after death. Under parts paler vinous than usual, dappled with yellow; bars across wings conspicuous, the larger quills white; back shading from the yellow of neck to pale green towards the tail, the feathers of which had much white about them. One at least of these varieties, I understand, was used for the cruel and foolish fashion of decorating a lady's hat.—G. B. CORBIN (Ringwood).

Notes from Ringwood.—Last winter was very unprolific in the records of any rarity amongst the wildfowl frequenting the valley of the Avon; a considerable number of Wigeon and Teal were constantly upon the river (on one "shooting" ninety-eight Wigeon and one hundred and thirty Teal were accounted for in one day by, I believe, five guns), and the usual number of Wild Duck, with a few Pochard and Shoveler, and an occasional immature Pintail and Golden-eye, with Coot and Moorhen, especially the former, scarcely up to the average number; but I heard of few Woodcock, and no Bittern, Gadwall, or Goosander. Wood-Pigeon and Bramblings were not so abundant here

as they were both east and west, whilst a few Golden Plover were reported. The most abundant species were Snipe and Lapwing, both of which were unusually common. On one estate over five hundred Snipe were killed, but comparatively few Jack-Snipe; and as to Lapwings, they were continually passing to and fro in very large flocks. Two or more Green Sandpipers were seen throughout the winter frequenting the meadows, and at times Hooded Crows were in evidence far more than was desired by the wildfowl sportsmen. The Short-eared Owl seems to have been seldom seen in this immediate neighbourhood for several past winters, although it used to regularly visit us. It is gratifying to be able to record that Goldfinches are certainly increasing, and Kingfishers are no scarcer than they were some years ago; but the enormous flocks of Sky-Larks which formerly were to be seen in the upland fields are sadly diminished in numbers, the craze for bricks and mortar no doubt contributing its quota to the decrease of Larks and other species, as it is certain that the Yellowhammer, and its larger relation, the so-called "Common" Bunting, are much less frequently seen than they were formerly.—G. B. CORBIN (Ringwood, Hants).

*Upupa epops* in Norfolk.—It will doubtless be of interest to the numerous ornithologists interested in the fauna of the above county to learn that a Hoopoe, in good plumage, frequented a newly-dug kitchen garden at 'The Meal House,' Holkham, during Easter; it was first seen on the 13th and again on the 14th of April. The wind was blowing from the south on the first day, as well as the latter part of the preceding day; previous to which it had been from the N.N.E. or N.E. for some little time. Referring to 'The Zoologist' (*ante*, p. 123), I see Mr. J. H. Gurney states that there are no records of this species for 1905; so the above occurrence is the first since March, 1904, when one was seen at North Walsham (Zool. 1905, p. 91).—L. B. MOURITZ).

The Hoopoe.—On May 5th I received, from G. Myford, Esq., Beaver Hall Gardens, Old Southgate, N., a fine specimen of the Hoopoe (*Upupa epops*).—JAMES GARDNER (Oxford Street, W.).

Strange Death of a Hen-Harrier (*Circus cyaneus*).—From time to time during the autumn and winter months I heard of one or more large brown Hawks, "with much white about the tail," having been seen in widely separated localities, and I naturally surmised they were female Hen-Harriers. About the middle of February a gamekeeper brought a bird for identification, with the statement it had been

"picked up dead"; but I suppose my apparent acquiescence in his assertion appeared somewhat sceptical, as he assured me in very emphatic language he was quite ignorant of how the bird came by its death. It evidently had been dead some time, and exposure to the rain that had recently fallen had not improved its appearance, but otherwise both in body and plumage it was in very fair condition. I skinned it, and found there were no bruises or marks of any kind—either trap or shots—upon any part of the body, and in its stomach were the remains of a small bird, the head and leg of a Meadow-Pipit indicating what these remains were. From the throat of the Harrier a white paste-like substance had exuded, and this had rather injured the appearance of the characteristic Owl-like ruff around the face; but it seemed to me the best part of the plumage was the splendid tail with its conspicuous bars of brown and buffish white, most aptly applied to the old name of "Ringtail." Is it possible the death of the bird was caused by natural poisoning, or are birds liable to any form of apoplexy? Judging from what I once saw of a Peregrine Falcon (which doubtless had been poisoned), the Harrier's death was not from the same cause, as its legs and bare spaces about the beak were as bright as in life, whilst the corresponding parts of the Falcon were changed to a pale livid green; but this might have arisen from a different poisoning.—G. B. CORBIN (Ringwood, Hants).

**A Small Sparrow-Hawk (*Accipiter nisus*).**—In March last a poultry-keeper, having lost several of her early chickens, blamed Weasel or Rat as the thief, though she had seen neither quâdruped in the vicinity; but one day, when watching the brood, she saw a bird dash, like "a bolt from the blue," into the midst of them, with such impetus that, striking its head against a log of wood lying near, its skull was fractured, which caused its death. This proved to be a male Sparrow-Hawk, and was the smallest and least in weight I had ever seen. The length of wing from carpal joint to point of longest quill was not much less than ordinary, but from head to tail it measured barely ten and a quarter inches, and its weight was only three and a half ounces, although in very fair condition. He was a handsome little fellow, the breast and thighs having wider rufous bars, the back and tail more tinged with brown than is usually the case, but destitute of the reddish tint so often diffusing the under parts at this season—are these marks of immaturity?—the whole plumage was bright and clean, except the much battered head. I recollect a somewhat similar incident. When in the forest I once saw a Sparrow-Hawk chasing a Green Woodpecker, and dashing itself with such force against an oak-tree as to fall



to the ground, but only to be stunned for a short period.—G. B. CORBIN (Ringwood, Hants).

**Whooper Swan at Carlisle.**—In December, 1904, the keeper of Carlisle Park noticed that a strange Swan had arrived on the Eden, and joined the flock of Mutes under his care. The bird was in the brown plumage of the cygnet, and the bill was of a blackish hue, similar in colour to that of a Mute cygnet, but of a different shape. Some time elapsed before this bird was brought to the notice of any ornithologist. Mr. Losh Thorpe was the first to hear that a stranger had arrived, and, together with Mr. L. E. Hope, of Carlisle Museum, he visited the river, and the bird was at once identified as an immature Whooper (*Cygnus musicus*). The bird remained on the river in company with the other Swans until May 8th, 1905, and when last seen was fighting down the Eden in company with two Mutes. At this time the bird was almost entirely white, and the yellow on the bill was also beginning to appear. No more was heard of the bird until Nov. 16th, when it again put in its appearance on the Eden, and rejoined the Mutes, being, of course, in full mature plumage. The bird appears to be the leader of the flock, and chases the Mutes away from any scraps of food which may be thrown to them. This is contrary to the experience of the late Rev. H. A. Macpherson, who, in the 'Victoria History' of Cumberland, says of this species:—"They are timid birds even with their own kind. I have seen them disperse in haste before the threatened onset of a couple of tame Mute Swans. On the other hand, they willingly tolerate lesser fowl to swim close to them." The bird under notice is very fearless, and will come within three yards of anyone feeding the birds. The date of its return (Nov. 16th) corresponds with the passage of Wild Swans in the Solway district, shortly before a pack of twenty was observed fighting down the Solway. At the present date (April 12th) it is still on the river, and a magnificent bird it is, the yellow on the bill contrasting well with its snowy white plumage. The upright carriage of the neck is noticeable, and the head is carried at right angles to the neck, not, as in the Mute, at an acute angle. If a pinioned Whooper could be obtained, and introduced to the flock, it might induce the wild bird to remain through the summer. Cases of this sort must be very rare, and it would be interesting to know whether a similar one has come within the experience of any of your readers.—ERIC B. DUNLOP (Carlisle Museum).

**Pelicans reported in Oxfordshire.**—In the Rev. F. C. R. Jourdain's notes (*ante*, p. 142), I was interested to read of the occurrence of a  
*Zool. 4th ser. vol. X., May, 1906.*

White Pelican (*Pelecanus onocrotalus*) in the Derwent Valley on Nov. 4th, 1905, and in a footnote on same page the statement that the species has recently occurred in Bavaria in a wild state, because Pelicans (sp.), whether wild or escapes, seem to have passed over this neighbourhood last summer. Mr. A. England, one of the partners in the large Pheasant farm at Greenfield, between the border of the south-west corner of Bucks, and Watlington (Oxon), told me, on Sept. 1st last, that "four or five weeks" previously he had seen four Pelicans flying over Greenfield in about a north-west direction. Mr. A. England is not an ornithologist, but a keen-eyed practical observer; and a Pelican once seen in the "Zoo" or a travelling menagerie, or even in a picture, is a bird for which it is hardly conceivable that anything else could be mistaken—at any rate, when, as in this case, they passed close by Mr. England; and he particularly noted the enormous bills. Greenfield is just in the line of flight for waterfowl passing up the Thames, if they avoid the bend beginning at Spade Oak, Little Marlow, and strike the river again a short distance below Oxford. — ALFRED HENEAGE COCKS (Poynetts, Skirmett, near Henley-on-Thames).

Crane near Great Yarmouth.—For about three weeks, until April 13th, a Crane (*Grus communis*) frequented some fields bordering two parishes not far from this town. Its plumage was immature, the long dark coloured inner secondaries only just showing. Why it remained so long I do not understand, as it appeared unhurt. — J. E. KNIGHTS (87, Churchill Road, Great Yarmouth).

Leach's Fork-tailed Petrel (*Procellaria leucorrhoa*) in the Isle of Man.—On the afternoon of 5th December last a specimen of the above species was picked up in Well Road Hill, a steep narrow street not far from the sea-front of the town of Douglas. It was still alive at the time of capture, but had one leg broken. It is now in possession of Mr. George Corlett, of Douglas. — P. G. RALFE (Castletown, Isle of Man).

Colour of Birds' Eyes (*cf. ante*, pp. 75 and 112).—Is it not the case that most, if not all, birds' eyes differ with age, and how comparatively few species come under observation sufficiently close that the eye can be examined in life? I have never had the rare pleasure of seeing old or young of *Fuligula nyroca* in the flesh (though it has once occurred in this locality), nor Pochards in a living state, except upon the river; but I have frequently seen specimens of the latter species soon after they have been shot, and I have often remarked that the finest plumaged birds had the brightest crimson or scarlet eyes; and

yet with some other species—as Golden Pheasant, &c.—I have often thought the best plumaged birds had the palest straw-coloured eyes—almost white. That anger or excitement in any degree alters the colour and consequent expression of the eyes is well known. I recollect a Parrot which had normally yellow eyes, but when angry or very pleased a red zone appeared around the black pupil. Those who have reared any of the *Falconidæ* must have noticed how the colour of the eyes differ from infancy to maturity. It may be a rule that all birds of the same species and sex, at any stated age, may have eyes of a similar colour, but I have met with exceptions that prove the rule. It is well known that in the adult Green Woodpecker the eyes are usually white, or very pale bluish grey; but on one occasion I saw a bird in which one eye was normal and the other a *dark brown*, and in another instance *both eyes were brown*. It may have been only a coincidence, but in each case it was a female thus marked, and it was quite surprising how the dark eyes altered the general appearance of the whole bird. When I say the eyes were brown, I am not alluding to the discoloured appearance sometimes caused by rupture of blood-vessel or otherwise, as is sometimes the case when certain parts of the head have been injured. The quotation from the 'Handbook of British Birds' of the change in colour from red to yellow is interesting, and, although there may be no connection whatever between bird and insect, yet all of us know the fact that in some species of Lepidoptera—burnets, tigers, &c.—the variation is usually from red to yellow, or from scarlet to orange.—G. B. CORBIN (Ringwood, Hants).

**Spring Arrivals near Canterbury.**—The following notes collected near Canterbury during the Easter holidays show the advent of spring in that district:—

April 13th. Swallow seen, and stated to be the first this year. 14th. Heard a Wryneck. 15th. While walking in a small wood with two friends, I heard and saw a Nightingale, but, as I had only just come from town, I cannot state if it was heard earlier. Found two nests of young Thrushes. 16th. Saw a Swallow. Found a Wild Duck sitting on her nest. The bird allowed me to stroke her, hissing the while. Once when she moved slightly I counted seven eggs, but there must have been quite a dozen. The nest was made entirely of down, and the bird fitted into it most beautifully. Peewits were nesting on the marshes, and two pairs of Redshanks kept circling round us, whistling to each other at times. Moorhens were very abundant. Found a Blackbird's nest with one egg. 17th. Saw a Swallow out at sea at Whitstable. Heard four Nightingales in

Thornden Wood, at different parts. On one afternoon last week two friends found seventeen Song-Thrushes' nests, containing either eggs or young. The Nightingale I heard on Easter Sunday was singing beautifully.—DUDLEY F. WARDE (40, Charleville Mansions, Charleville Road, West Kensington, W.).

Migratory Notes from Aberdeen.—Ring-Ouzel (*Turdus torquatus*), April 8th. Three Wheatears (*Saxicola ananthe*) seen April 8th; unusually early. Cuckoo (*Cuculus canorus*), April 26th; very early, and I have no recollection of hearing one with so many remnants of snow-wreaths in the locality—about 9 a.m., with abundance of song. It was stated one evening that the voice was hoarse, while the frosts were very severe.—W. WILSON (Alford, Aberdeen).



## NOTICES OF NEW BOOKS.

*A Treatise on Zoology.* Edited by E. RAY LANKESTER, M.A., LL.D., F.R.S., &c. Part V. Mollusca. By PAUL PELSENER, D.Sc. Adam and Charles Black.

THE present volume of this series, so indispensable to every student of zoology, will probably attract more readers of this Journal than did its predecessors, for we have now reached in the Mollusca a phylum which has always interested, and often been the study of, very many naturalists. A perusal of these pages may prove to be a revelation to many collectors of shells, and show that pure conchology is merely the husk of molluscan zoology, or, in the words of Teufelsdröckh, a "Philosophy of Clothes." When we read that descriptive zoologists have enumerated more than 28,000 species of living molluscs, of which more than half are Gastropods, and that fossil representatives of molluscs are found in all deposits from the Palæozoic onwards, it is evident that here indeed is a field in which a specialist should obtain no uncertain view in the unfolding or evolutionary development of one great division of animal life. Not only of the external characters, but in anatomy and embryology, the reader and student may rely that what is not told is not worth telling; while what will probably interest the readers of 'The Zoologist' the more, is a section devoted to bionomics and distribution, which, though small compared with the preceding subjects, is one, particularly as regards bionomics, which the pages of this Journal are mainly intended to promote. And thus we come to the reason why this book should be on all our shelves, not because as general naturalists, and not as more fundamental zoologists—as would we all were—we shall follow every page with the necessary animal dissection, but because we can find a last and reliable statement on those matters which are beyond our purview, and can procure a safe guide and a trusty reference when we go beyond our own standpoint. We are not

alluding to the purely zoological student, to whom, as we have said, the series of volumes is indispensable as a course of study, but feel that to very many readers of 'The Zoologist' this 'Treatise' will be of encyclopædial value, where many biological difficulties may be solved, and it will in fact prove a frequently consulted zoological lexicon.

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*The Natural History of Selborne.* By the Rev. GILBERT WHITE, M.A. Re-arranged, and Classified under Subjects, by CHARLES MOSLEY. Elliot Stock.

To have given the world a classic, and to have published it in the seventieth year of his life, has been the lot of few naturalists, and in the present demand by publishers for zoological matter, this will in the future be a still more unlikely circumstance. Gilbert White has had many disciples and imitators; a charming series of volumes are now found on the shelves of most naturalists' libraries—books written often by better equipped observers, but still lacking the vitality of this literary gem, which will probably survive them all. What is the secret of this ever vernal composition? It certainly owes much to its dignified simplicity in diction, and to its patient method of observation, qualities pre-eminently found in the greater classic which appeared seventy years afterwards—'The Origin of Species,' by Charles Darwin. Sermons are sometimes somewhat dull to hear or read, but who would not like to have some familiarity with the addresses given by this naturalist vicar to his rural congregation? There must have been much natural theology.

Nearly one hundred editions of the 'Natural History of Selborne' have been already published, some of which have been little read, and the existence of others only known to librarians and collectors; to edit White has always been the pious wish of a sometimes weak disciple. This edition strikes new ground, and serves a useful purpose; it gives a summary of White's observations arranged under subjects and species, so that we may at once, by the aid of this condensation, know all the writer had to say on each animal and plant he referred to in many letters. It is thus a book for the student, but the original arrangement will still be the delight of most naturalists and literary readers. Mr. Mosley has perhaps done no inconsider-

able service, and his volume will prove a very handy source of reference to those who wish for an easy introduction to the bionomical observations of Gilbert White. Of course this publication lacks some valuable notes contributed by certain other editors.

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*The British Woodlice.* By WILFRED MARK WEBB, F.L.S., and CHARLES SILLEM. Duckworth & Co.

THIS small volume supplies one of the desiderata to all naturalists, *viz.*, a book of reference to a small and, in a general significance, little-studied group of animals. These terrestrial isopod Crustacea—represented in Britain, according to our authors, by twenty-five species—are each beautifully illustrated on separate plates, which renders their identification a matter of little difficulty. Of these no fewer than seventeen have been found in the county of Essex, where the authors' investigations have been principally made. This monograph originally appeared in the 'Essex Naturalist,' and is a further example of the great stimulus given to all naturalistic studies—we will not say *local*, but county studies, and we might well give a larger definition—by the foundation of the Essex Field Club. This publication is not intended to be the last word on the subject, but it certainly is the best to work with, and should be largely used in other counties than Essex. How many local societies can give offhand the number of species of Woodlice which occur in the area of their investigations?

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*The Eggs of European Birds.* Part I. By the Rev. FRANCIS C. R. JOURDAIN, M.A., &c. R. H. Porter.

WE quite recently (*ante*, p. 40) called attention to the appearance of another book on this subject by Mr. Dresser, and we have now before us the first part of Mr. Jourdain's publication. This is announced to be completed in about ten parts, containing about one hundred and forty coloured plates. Geographical races are fully recognized and described, and the nomenclature recommended by the Fifth International Zoological Congress has been adopted. This instalment contains fourteen beautifully coloured plates, and the text is very full and informative. We reserve further remarks to a notice of the work when completed.

## EDITORIAL GLEANINGS.

*Voracity of the Pike.*—Mr. F. Schroeder, writing recently to the editor of 'The Fishing Gazette,' says :—

"Perhaps you remember in 1898 we had a conversation about the best way to mark fish, as I caught then such large numbers of Pike I did not know what to do with, and intended to mark a number of them so as to determine their growth and wanderings. The outcome of our conversation was, I got some numbered labels to be attached by a wire to the gill-covers. Looking over my diary, I find the following interesting items :—

Pike No. 5.—Weight, 3 lb. ; 22 in. long. Recaught by Mr. Moseley the following week. Feb. 21st, 1899.

Pike No. 6.—Weight, 3 lb. ; 23 in. long. Recaught by Mr. Woodhouse six days later. Feb. 21st, 1899.

Pike No. ii.—Weight, 4 lb. ; 25½ in. long. Recaught and killed by Mr. Woodhouse in March. Feb. 21st, 1899.

Pike No. 15.—Weight, 2½ lb. ; 23 in. long. I caught him again March 14th, 1899. Recaught by Mr. Woodhouse the following day about a mile away.

Pike No. 61.—Weight, 3½ lb. ; 24½ in. long. I recaught him an hour later on the same spot without having moved my boat. March 14th, 1899.

Now, you must bear in mind that each fish—they were all caught spinning—after having been landed, was put into a narrow open box, with one side movable, which was screwed up to the fish placed in it so as to hold it in position. A large hole was cut in the movable side so as to enable me to get easily at the gill-cover. I then pierced the gill-cover with a pair of specially made pliers, and inserted a ring with label attached. Finally, I closed the ring with another pair of pliers. The fish was then taken out of the box, weighed, measured, and carefully returned to the water.

In this way I registered some seventy fish, but, finding that I kept on catching the same fish day after day, I gave it up. On many fish I could clearly see that my label had been torn out of the gill-cover."

